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ABSTRACT

Television viewing habits of 12 to 14 year olds in Australia were studied, and an attempt was made to correlate amount of viewing time and choice of programs with these children's intelligence and personality. Average viewing time per night was three hours and 40 minutes. A large variation was found in the time at which children ceased viewing. The study found no significant difference in amount of viewing done by high and low intelligence groups, although children of high intelligence spent more time watching the non-commercial channel and documentary programs. Those children who watched little television fell in two groups. The first group had IQs of 110-120 and had parents who restricted their viewing and had high educational expectations for their children. The second group had IQs above 120 and little parental restriction. High intensity viewers were generally less acceptable to their peer group than were low intensity viewers. On the whole, however, it was found that no significant correlations exist between viewing choices or amounts and personality scales. (JK)

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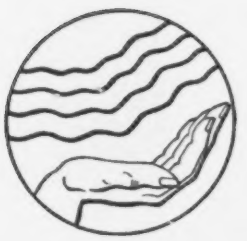

TELEVISION VIEWING BY YOUNG SECONDARY STUDENTS

A Study of the Television Viewing Behaviour of
Children at Form Two Level

by

R. J. Powell

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EDUCATION & WELFARE
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Foreword

This report of an investigation conducted by officers of the Australian Broadcasting Control Board was possible only because of the ready co-operation received from the Director-General of Education in Victoria (Mr. F.H. Brooks) who permitted access to Departmental data concerning some hundreds of children at State High and Technical Schools.

A paper based on this investigation was presented by the author, R.J. Powell, then a Senior Psychologist on the Board's staff, to the 41st ANZAAS Congress in 1965. The interest aroused by that paper amongst educators and others concerned with children and television led the Board to decide to publish an expanded version of the paper for wider circulation. In the meantime, Mr. Powell had accepted a post at La Trobe University and some delay in preparing this report for publication became inevitable.

A desirable outcome of this investigation would be further research in areas pointed up by the report, perhaps sponsored by educational institutions and authorities and embracing a greater variety of schools. The Board would welcome such an interest, and would be prepared to make available its research data for this purpose.

TELEVISION VIEWING BY YOUNG SECONDARY STUDENTS

Introduction

Many pronouncements have been made by people concerned with moral and educational development about television viewing by children in the early stages of adolescence. Most are exemplifications of the favourite themes of each writer and, perhaps fortunately for them, there has been little in the way of research to confirm or refute their assertions. This study is the result of an attempt to relate the structuring of viewing to the personality of the individual child within both the peer group and the family group setting.

The impetus for the study was the availability, through the Education Department of Victoria, of an extensive range of personality, intelligence, parental occupation and related measures for a sample of over two thousand pupils in Form Two (age level about thirteen years) at sixteen secondary High and Technical schools in the metropolitan area of Melbourne.

The project was carried out in two stages, referred to as the pilot and the main studies. The pilot study was restricted to two hundred children in one High and one Technical school where an intensive study was made of the children's programme preferences and viewing habits in relation to the characteristics of the individual child. The data-gathering procedures were modified in the light of the experience gained in the pilot study (August 1967) and the project was extended to include in the main study a further thirteen hundred and fifty students at fourteen schools in the metropolitan area of Melbourne. The main study was carried out in November 1967.

The Director-General of Education in Victoria (Mr. F.H. Brooks) gave approval for an approach to the Principal of each of the schools concerned, to seek co-operation in the project. All Principals expressed willingness to participate and provided a great deal of assistance in the collection of data and in discussion and interpretation of the results. The data on individual characteristics of the project group were made available through Mr. G. Brown of the Curriculum and Research Branch of the Education Department of Victoria. The assistance provided by Mr. Brown and his staff is gratefully acknowledged, as is that of the Division of Computing Research of the C.S.I.R.O., for its advice and the use of its facilities in the analysis of the data.

The Study In Outline

The basic aim of the pilot study was to develop and evaluate indices of viewing and to relate these to the characteristics of the individual. To this extent the viewing records for two hundred children of about thirteen years of age (Form 2 level) at one High School and one Technical school were subjected to intensive analysis. Each child's viewing was subdivided into total viewing times for news, cartoons, children's programmes, teenage programmes, documentaries, domestic comedies, crime drama, westerns, and other types of programme. These measures were used with the technique of hierarchical classification to establish whether or not there was a relatively small number of common patterns of viewing amongst children. If this hypothesis were substantiated it was proposed to examine in detail the programme types characterising these patterns. It was found that the existence of patterning was relatively weak and that for classification purposes the important types of programme were news, cartoon, documentary, and teenage programmes. The breakdown of viewing times into programme types for the main study was planned accordingly.

The importance of peer group relationships in the transmission of information about programmes and the influence of programme choice was also studied at the pilot stage, using a classroom-administered sociometric test and group interviews with selected children. Although this procedure provided some useful indices, and a great deal of insight as to the children's usage of television, it was not employed in the main study because the amount of time involved would have been disproportionate to the likely value of the results.

At both stages, in an attempt to establish the child's programme preferences unencumbered by station bias and parental restriction, a simulated programme viewing guide was used, embodying a set of imaginary programmes parallelling those shown by the Melbourne stations. (These programmes were sufficiently realistic to produce a comment from one of the children that he had seen them all before, in another city.)

A further set of measures was provided by a family patterns test adapted from the work of Cox and Leaper of the Psychology Department, University of Melbourne. Again, some scales provided relevant information at the pilot study stage, but there was difficulty in interpreting the results due to wording changes which were necessary to make the test appropriate for thirteen-year-olds. The test scales needed to be reconstructed before the results could be interpreted without ambiguity, and since this was impracticable with the available resources, the measures were not used in the main study.

Eight Technical and six High schools participated in the main study. The anonymity of these schools was a condition stipulated by the Education Department of Victoria when providing the data. Random selection of Form Two children within the schools had been made previously by the Curriculum and Research Branch of the Education Department, so that the representativeness of the sample within the schools was ensured. The basic material gathered amounted to thirteen hundred and fifty sets of viewing records, each involving details of viewing during three consecutive weeknights.

The analysis of the data was performed at several levels, ranging from simple frequency tables describing the viewing data for the information of Principals and staff, through cross tabulation of the viewing data and personality measures, to multivariate analyses. The set of data for analysis extended to 105,000 pieces of information linking the viewing and individual measures. Many hundreds of tables and statistics were examined in the preparation of this report, and comment has been limited to the differences between groupings that cannot be readily attributed to chance. By convention, firm statements of differences between groups refer to statistics significant at the 1% level (i.e. the likelihood of the obtained result being due to chance is less than 1 in 100). Where a tendency is reported, the significance of the test is between the 5% and the 1% levels.

It must be emphasised that only a small segment (12-14 years) of the age spectrum of child television viewers was sampled. In this segment each child's viewing habits were investigated in relation to what was known of the individual at the time of the testing.

This report has been arranged so that results of general interest are provided in Section I, which gives a detailed description of the children's viewing during the main study. Section II provides more specialised comment on the existence of similarity groupings derived from the pilot study; and Section III examines the multivariate analysis of data from the main study. Additional technical information is provided in the Appendices.

Tabular presentation has been avoided in the text. Where possible comparisons have been illustrated graphically, with reference to the appropriate table in the Appendices.

The television stations referred to in this report are:

National Television Service -
ABV, Channel 2

Commercial Television Service -
ATV, Channel 0
HSV, Channel 7
GTV, Channel 9

SECTION I

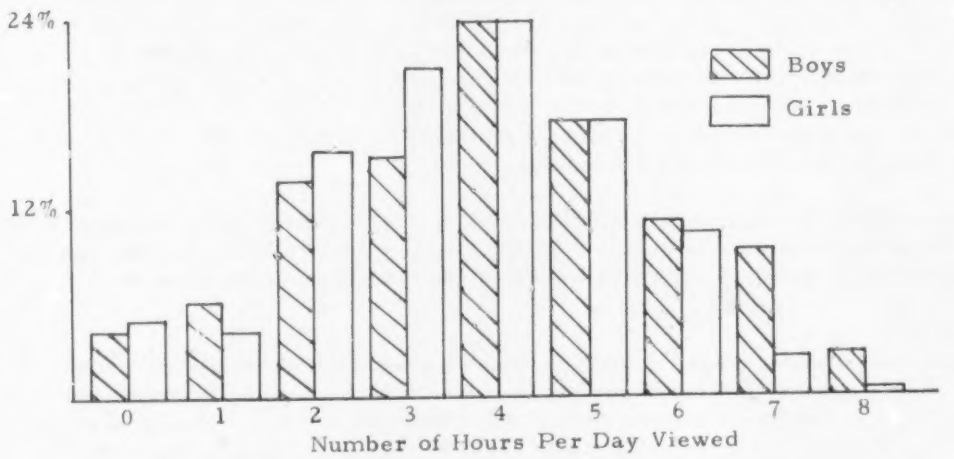
Television Viewing by the Children in the Main Study

The study was based on weekday viewing, Monday through Thursday, and the information presented here was derived from aided recall records of viewing during three consecutive weeknights. Details of the aided-recall procedure are given in Appendix 1. In essence, the procedure consisted of asking students to indicate on a printed sheet the programmes that they viewed in their entirety, and to estimate the time spent in watching partially-viewed programmes. The programmes were listed according to station, showing starting time and duration.

Analysis of the viewing records for the thirteen hundred and fifty children in the main study showed that the average viewing time per night was three hours forty minutes. This was somewhat higher than expected, and it was at first postulated that the viewing was more than usual due to the slackening of school pressures in November. It was found, however, that many of the schools did not rely on end-of-the-year examinations at this level, but used cumulative assessment over the year's work. This implied that regular schoolwork should continue into December, and evidence of this was found at some schools. By comparison, the figures from the pilot study conducted in August showed an average viewing time of three hours thirty minutes per evening, the figure for boys being within five minutes of the main study result, and for girls some twenty minutes less.

Figure 1

Distribution of Viewing Hours for Boys and Girls



Other sets of comparative data were obtained from the Thomas and Lang study of secondary school children in Greater Geelong. (1) Their report, based on a study involving ten thousand children of all grade levels, provided a figure of two hours fifty-five minutes as the average of typical viewing by boys in Form 1 for the period Monday through Thursday, with increased viewing on the remaining days (see Appendix 2). The word "typical" is stressed, since Thomas and Lang discarded records that children stated were not typical of their usual pattern of viewing. The figures in this report are based on actual viewing reported by all children in the sample for the period of the study. This procedural variation might be expected to provide some difference in the estimate of average viewing time; unfortunately opportunity did not arise to test the hypothesis that many children reporting extreme amounts of viewing might tend to regard their viewing as atypical.

Although the average figures for viewing were slightly higher than expected, they appeared to reflect a normal pattern for boys in the sample; girls in the sample, responding more strongly to school pressures, may have averaged about twenty minutes per day more viewing in November than during the earlier months of the year. Schramm (2) quoted average viewing time for Grade 8 children in San Francisco (1961) as three hours ten minutes per weekday evening for both boys and girls, and demonstrated that American children in the early stages of adolescence (say twelve to fourteen years of age) were at the peak of involvement in television viewing. The average amount of viewing increases up to this age and falls afterwards. Thomas and Lang (1) provide figures from Form 1 (age twelve) onwards which support the assertion that the average amount of viewing increases up to that age range, and falls afterwards (see Appendix 2 Table 3), but selection based on scholastic ability changes their sample beyond the Form 3 group. (The statutory school attendance age in Victoria is 15 years).

It is likely that the age-group selected for this study is that which would record maximum viewing involvement; at later ages a steady, even if small, reduction in average viewing times may be expected.

The finding of an average viewing time of three hours forty minutes in the main study aroused much concern and surprise among the Principals of the schools involved. Even those who were familiar with the Thomas and Lang study had not thought that these patterns might be present to the same extent among their own students. Many of the Principals and senior staff queried whether it was possible to devote so much time to television. Schramm, Lyle and Parker (2) answered that question for American children, reporting in 1961 that "the total amount of time spent on the mass media is sometimes so much that it appears that there is little time left for eating or sleeping or attending school. This is because children watch television or read a magazine or newspaper while eating lunch or dinner, listen to radio while doing homework or reading a book, read comic books hidden in notebooks during school hours".

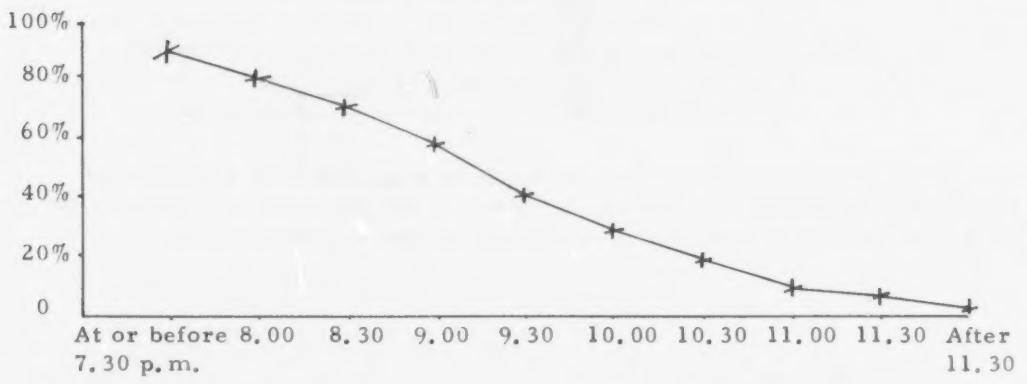
Time of Completing Viewing

A large variation was found in the time at which children ceased viewing. Half the children in the sample were still viewing at 9.00 p.m., more than a quarter at 10.00 p.m., and at least one in fifteen after 11.00 p.m. As might be expected in terms of parental and social restrictions, boys viewed later into the evening than girls (see Appendix 5 Table 8). The viewing reports from one outer suburban school showed a high incidence of viewing by boys until the end of the last programme - usually well after midnight.

Figure 2

Percentage of Children Still Viewing at Given Times

(Averaged Over 3 Consecutive Evenings)



By extrapolation of these figures to the population of thirteen-year-olds at High and Technical schools in Melbourne, it seems that over 10,000 thirteen-year-olds may be watching television after 10.00 p.m. on weekdays. The Form 2 population of these schools in 1967 was approximately 36,000.

Viewing Before 6.30 p.m.

In the period between 4.00 p.m. and 6.30 p.m. some children have less opportunity than others to watch television, particularly those from outer suburban schools where much time is taken in travelling. The results for one such technical school were much lower than would have been expected on the basis of data from other schools.

About one-fifth of the boys in the sample watched for the full two-and-one-half hours between 4.00 p.m. and 6.30 p.m. each day. There was a tendency for girls to view for a shorter time than boys, and about one-sixth of the children of both sexes did not view at all in this period.

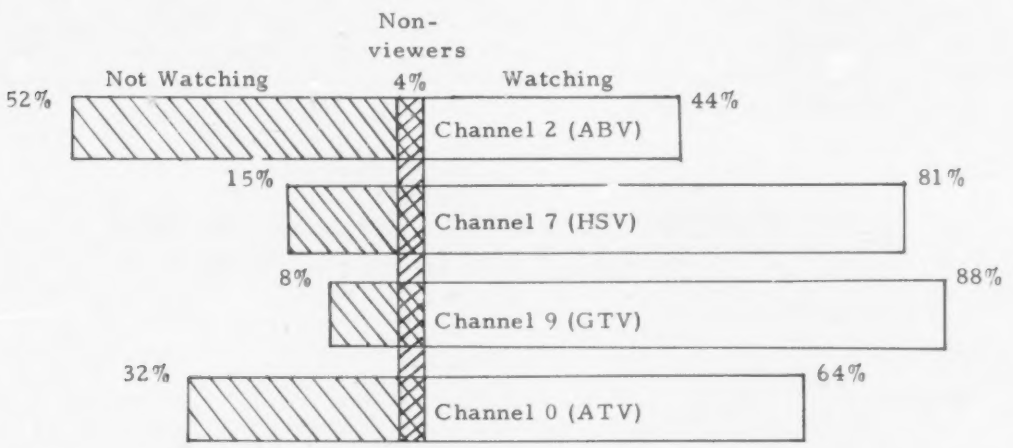
These results may invite speculation on the emotional development of thirteen-year-old children: it might have been expected that the pressures of approaching adulthood would cause them to reject programme material perceived as being for younger children. The lack of viewing may reflect a combination of the growing-up process and parental restrictions on television viewing at times when outdoor activities are considered more appropriate.

Choice of Station

The distribution of viewing time among the four stations indicates bias against viewing the national station, with approximately 56% of children not watching Channel 2 during the three consecutive weekday evenings.

Figure 3

Percentage Viewing a Particular Station for at least One Half-Hour per Night on each of Three Consecutive Nights



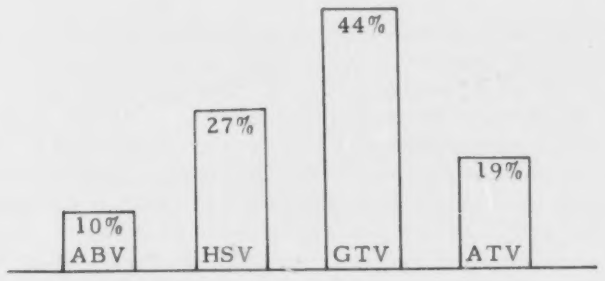
The viewing of the national station, as might be expected from examination of its programme structure, did not approach that of the commercial channels, for which an accumulated audience is a requirement for operational success.

The allocation of viewing time shown in Figure 4 is supported by the audience measurement reports of the Anderson Analysis and the McNair Survey for the same period which show that for young people between ten and seventeen years of age, the proportionate distribution of viewing among the stations resembles the figures obtained in this study (see Appendix 5 Table 14).

Figure 4

Allocation of Children's Viewing Time to Stations

(all viewing from 4.00 p.m. to station close)

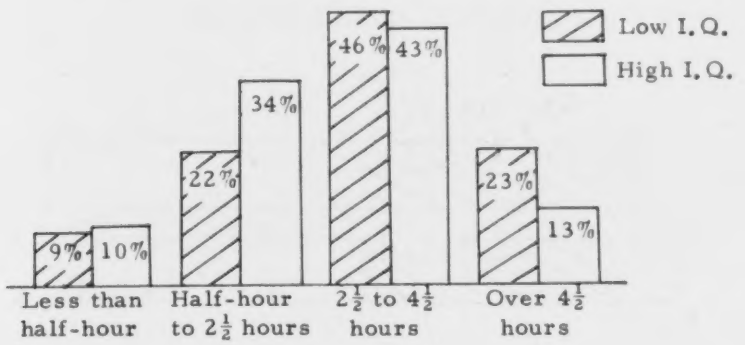


Intelligence and Amount of Viewing

An assessment of the intelligence of the children in this study was available from the Education Department, this being the I.Q. as measured by the Otis Intermediate Intelligence Test (see Appendix 1). A comparison of criterion groups based on intelligence in respect of the total amount of viewing is shown below.

Figure 5

Average Daily Viewing, Related to Intelligence



The proportion of the high intelligence group which watched over $4\frac{1}{2}$ hours per night was smaller than for the low intelligence group, but the differences are such that the results may be due to chance sampling fluctuations. On the basis of this evidence it could not be claimed that there is a difference in total viewing time between the high and low intelligence groups. This result aroused some concern and

surprise among school staffs, who had expected that only the less able students would be viewing for very long periods. The wastage of ability was also queried, the postulate being that if brighter children viewed for a more moderate time, say 2 hours per night, the extra time available could be directed to pursuits which would be more rewarding in terms of social and intellectual development.

A definite pattern emerged showing that viewing ABV 2 programmes was likely to be related to the measure of intelligence. The programmes of that station were watched by more than half the children in the high intelligence group compared with less than one-third of the low intelligence group. But the study showed that although there is a relationship between viewing ABV 2 and intelligence, many children with educational potential are not exposed to the programmes of this station and are in fact non-discriminating, high-intensity viewers.

Comparisons were made with the findings of Himmelweit et al, in "Television and the Child" (3). Although that study was based on restricted viewing times for a single station* the sociological and educational climates pertaining to the two studies are relevant. Highly intelligent British children were most likely at that time to be in the higher stream of secondary education, and to be subjected to the competitive demands of the Grammar School system. The Australian comprehensive school makes little in the way of extra demands on the bright child at early secondary level. Pressures from both home and school for excellence in education attainment may be quite dissimilar for Australian and British children, and the extent of high-intensity viewing by the Australian children may be symptomatic of the more easy-going attitude of Australians generally.

Viewing According to Types of Programme

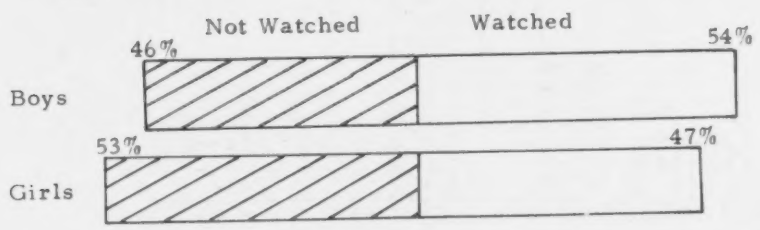
1. News Programmes

Half the children in the sample did not view a news programme during the three consecutive weeknights. About a quarter watched news regularly, and a very small number averaged two half-hour news sessions per day (see Appendix 5).

The proportion of children from the high intelligence group who watched television news more regularly was larger than that from the low intelligence group, but the difference was not sufficiently great to rule out the possibility of chance fluctuations.

Figure 6

Viewing of News Programmes



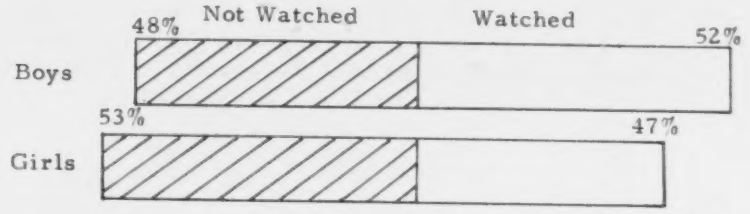
* At the time of the main Himmelweit study the only television programme was that of the BBC, which did not transmit between 6.00 and 7.30 p.m., and afternoon programmes were brief and isolated from each other. A subsequent check, after an alternative programme became available, showed no marked increase in the amount of viewing.

2. Cartoon Programmes

It has already been suggested one might expect children of thirteen to be on the threshold of rejecting programmes that appeal to younger children. Some verification of this hypothesis was found in respect of cartoons, as half the sample did not view such programmes in the three-day period. There was a tendency for a larger proportion of the low intelligence group than of the high intelligence group to view this type of material. Some showed their resourcefulness by managing to view as many as nine cartoons within the three-day period - a feat of persistence which would surprise their teachers, especially where eager cartoon watchers come from the low intelligence group.

Figure 7

Viewing of Cartoons

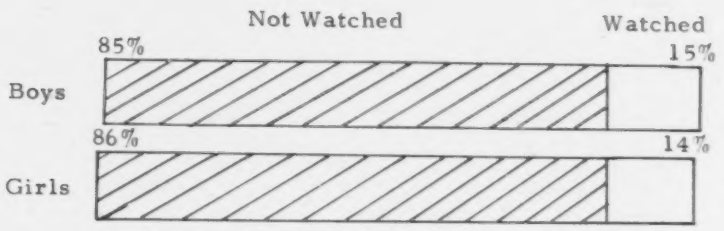


3. Documentary Programmes

Few children in the sample reported viewing documentary programmes. Only fifteen per cent indicated having watched at least one half-hour of this type of programme. Here there was a definite pattern: children of the higher intelligence group, and from homes in which a parent's occupational level was in the professional, administrative, and higher clerical groups, tended to be more involved with documentary programmes. To some extent this viewing of documentaries was a reflection of their viewing of ABV 2 programmes.

Figure 8

Viewing of Documentary Programmes



4. Teenage Programmes

The pilot study indicated that viewing or not viewing teenage programmes was an important discriminant between types of children. Provision had been made to gather data on teenage viewing in the main study, but shortly before it took place station schedules were rearranged and teenage entertainment was televised on Saturday morning instead of on weekdays. As the main study was based on viewing for three consecutive weeknights this hypothesis could not be tested. Reference is made to the pilot study findings about teenage programmes in Section II.

Differences in Viewing Between Schools

A detailed breakdown of the figures for viewing in all schools is given in Appendix 4, Tables 4 to 6. This shows that the variation between extremes in average viewing time per evening was of the order of three quarters of an hour for High school boys. Less variation in the viewing pattern is evident between girls at the various schools, with differences between extremes of the order of half-an-hour. Boys at the Technical schools reported a greater range of average hours of viewing, with differences between extremes of an hour and ten minutes per evening. The school reporting the lowest average was the one involving a high proportion of travelling time (already mentioned under "Viewing before 6.30 p.m.").

Although much of the discussion has been based on sets of average figures, the school differences highlight the care to be taken in interpreting average viewing as normal, usual or typical, for a child. As well as the differences between schools in the average hours of viewing, there are different spreads of viewing hours within schools themselves. At some schools a large group of the students indicated viewing times close to the school mean. At others, larger groups reported viewing times which in some cases were much higher and in others much lower than the school mean.

SECTION II

Similarity Groupings Derived from the Pilot Study

The pilot investigation was designed to examine in detail some measures of television viewing and of personality, and to assess the relative usefulness of various techniques of analysis prior to undertaking the main study. Summarized, the aims of the pilot study were:

(a) to develop indices of viewing which would provide a simple description of a child's viewing in a concise and replicable manner;

(b) to investigate the relationships between viewing indices and information about the child in respect of intelligence, personality, peer group acceptance and family structure;

(c) to deepen insight into the determinants of viewing by conducting interviews with groups of children;

(d) to test the hypothesis that viewing by children at this age level may follow a relatively small number of patterns, allowing most children to be allocated to a similarity group whose members are more like each other than like the members of other groups in respect of measures of viewing;

(e) to determine the attributes, in terms of personality, intelligence, family structure and peer group acceptance, of children forming the various similarity groups, if any were found to exist.

The data were collected from children in Form Two at one High and one Technical school in Melbourne. The schools were chosen in collaboration with the staff of the Curriculum and Research Branch of the Education Department so as to be representative of such schools. Subsequently, analysis of viewing and personality data from the main study demonstrated that the pilot study schools had been well chosen from the viewpoint of sampling, as both provided results close to the median for the various measures.

The analysis was performed at three levels: an examination of the frequency tables for each measure; cross-tabulation of the measures according to a series of classifiers (e.g., the breakdown of hours of viewing according to intelligence level); and multivariate analysis of all measures with their interactions considered simultaneously (correlation analysis, hierarchical groupings, and factor analytic procedures). The frequency and cross-tabulation analyses were mathematically and conceptually simple but time-consuming procedures; computer programmes were specially written for these processes. The multivariate analysis involved a higher order of mathematical and computational complexity which would have been impracticable had computer facilities not been available. The powerful procedure of hierarchical classification analysis (powerful in the sense of detecting the presence of groupings if they exist) which was then under development by Williams and Lance (4) was made available for use under their supervision. The concept of similarity groupings, on which this chapter is based, is discussed in Appendix 3.

The hierarchical classification procedure grouped the individuals according to the degree of similarity of their actual television viewing. The strongest structuring split the sample into three main groups which, with further analysis, were designated as low, medium and high intensity viewers. The low intensity group was further split into two sub-groups, the characteristics of which are described below. The next stage of analysis was to determine which of the measures of viewing had been decisive in the allocation of children to the similarity groups. A striking fact which emerged at this point was the dominance of volume of viewing over all other indices. Apart from cartoon, teenage, documentary and news programmes, the viewing of programmes was not clearly related to similarity group membership.

The system of programme classification used was that devised by the Australian Broadcasting Control Board for dissection of programme content as shown in its Annual Reports in the Appendix dealing with the Statistical Analysis of Television Programmes. While this system uses categories which are acceptable for adults, there is no known evidence to suggest that they represent programme content as perceived by adolescents. Criticism may be levelled at the use in this study of a rather naive approach to content analysis; but it has the advantage of being readily interpreted in everyday terms. Findings based on such a system are directly relevant to the type of popular comment that asserts that children use television to seek out programmes with aggressive, violent or criminal themes. The analysis demonstrated that apart from the broad categories of teenage, cartoon and news programmes, the finer distinctions in content provided little further coherent information about the individual's viewing.

A further analytic procedure showed that the relevant information for the group structure could be considered within the framework of a four-dimensional space (see Appendix 3), the axes of which could be broadly interpreted as:

(1) amount of viewing

(2) selectivity of viewing*

(3) viewing of cartoon programmes

(4) viewing of teenage programmes

Considering the dimensions of "amount of viewing" and "selectivity", it is possible to provide a two-dimensional plot showing the characteristics of each group. Figure 9 is a schematic representation of the situation found from the pilot study. Similar plots could be made for all other possible pairings of variables.

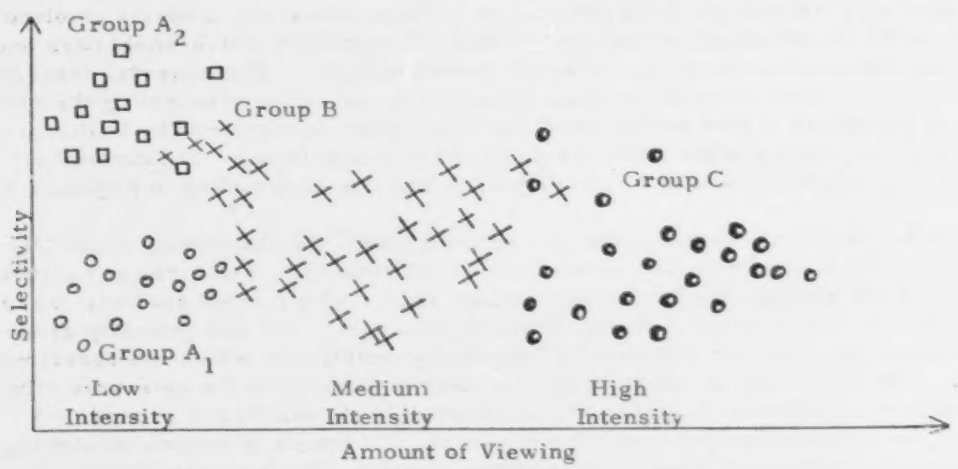
The final analysis considered differences between these groups in the measures of personality, peer group acceptance and family structure. In this it was hoped to provide a description of the characteristics of typical members of each group.

The Low Intensity Viewers

These children watched very little television and could be considered as comprising two sub-groups (depicted as A_1 and A_2 in Figure 9).

Figure 9

Two Dimensional Representation of Similarity Groupings from Pilot Study



* The term "selectivity" is used here in reference to the number of channel changes per hour of viewing, the number of breaks in viewing of $\frac{1}{2}$ hour or more, and the viewing of information programmes.

Group A_1 was characterised by a small amount of viewing spread over all categories and channels. These children were mostly in the 110-120 I.Q. range and came from homes in which the parent's occupation was given as administrative or sub-professional. The family patterns questionnaire indicated that these children were subject to above-average restriction within the home; and that their parents held high educational expectations in relation to the child's ability, and attempted to help realise these expectations by emphasising educational pursuits and placing limits on the amount of television viewing.

The lack of programme and channel preference suggests that when these children were not actually prohibited from viewing, almost any programme would provide some degree of satisfaction for them.

By contrast, the other sub-group of low intensity viewers (Group A_2) reported little parental restriction. Their parents were mostly in the higher professional occupational category; the children were in the higher intelligence range (I.Q. 120 plus) and were coping easily with the demands of the school. Their viewing was characterised by a strong interest in documentary and news programmes and evidence of a high degree of selectivity in programme choice. This sub-group indicated a lower anxiety level than that of Group A_1.

The Medium and High Intensity Viewers

The children forming these groups (40% of the sample in each) were differentiated from the low intensity viewers in that they watched a great deal more television and tended to be unselective in their choice of viewing. Examination of their viewing records shows that volume of viewing is the primary discriminator between members of these groups. The high intensity group (Figure 9, Group C) watched more cartoons, more adventure drama and more domestic comedy than did the medium intensity group (Group B) simply because they watched more television. Group C averaged about five hours television per day compared with three-and-a-half hours for Group B.

The only non-television measures to discriminate between these groups were peer-group acceptability, as measured by a classroom-administered sociometric test and Factor F of Cattell's High School Personality Quiz (5) (1963 edition) (see Appendix 1). The heavy viewers (Group C) tended to have a similar number of mutual friendship ties but a lower general acceptability level within their class. As a group they were closer to the Desurgency point of the bipolar Surgency - Desurgency factor; that is, in Cattell's popular terminology, they were more sober, taciturn or serious than the group B children who approached the enthusiastic, heedless, happy-go-lucky pole.

SECTION III

The Multivariate Analysis of Data from the Main Study

A general description of the viewing by children in the main study has been presented in some detail in Section I. The similarity grouping analysis used during the pilot study provided an empirically-based framework for the allocation of children to similarity groups in relation to their television viewing. As this structure was based on the sample of children from only two schools, the question to be considered was whether the data from the main study provided supporting evidence of it. The complexity of similarity grouping procedures is such that only a small number of individuals can be considered simultaneously. An alternative test of the structure can be made by using the method of Principal Components Factor Analysis (t). In essence this procedure may be considered as the grouping of measures or scores into sets, each of which contains a common underlying element or factor. Technically this was achieved by first reducing the data to the form of an intercorrelation matrix involving all thirty-three measures of actual viewing, simulated programme viewing, and personality. This matrix was factor-analysed to test whether the pattern of the correlations within the matrix could be explained by the operation of a small number of mathematically postulated factors. The composition of the factors was then considered in terms of the nature of the measures contributing to each set or factor. In this section the sets of measures have been given what is considered to be reasonably interpreted names, but the individual measures comprising each set are stated so that the reader may make his own comparisons #.

Set 1: Totality of Viewing Scale

Half-hours viewed after 6.30 p.m.	* * * *
Total half-hours viewed	* * * *
Half-hours before 6.30 p.m.	* * *
Half-hours viewing of Channel 7	* * *
Half-hours viewing of Channel 9	* * *
Finishing time Tuesday	* * *
Finishing time Wednesday	* * *
Finishing time Thursday	* * *

The number of asterisks represents the approximate length of relationship between the item and the set.

The finding that the total half-hours viewed should be closely related to the viewing times before and after 6.30 p.m., and that these in turn involve the viewing of the most-watched stations, could hardly be considered as unexpected. To some extent the finding indicates the feasibility of this type of analysis, and demonstrates the notion of a factor or set of measures having some element in common - in this case, the amount of time spent on television viewing. This means that children with a high value for one of the measures in the set are likely to have high values for the others, and those with a low value for one of the set tend to have low values for the remainder. It does not imply a perfect functional relationship but suggests that for the whole sample these cases represent frequently-occurring

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The Procedure was to extract ten principal components and apply a varimax rotation of components having a characteristic value (eigenvalue) in excess of unity. A programme for Principal Components Factor Analysis from the University of Michigan was adapted for use in this study. The procedure was replicated with a forced six-factor solution and with the analysis of viewing measures only. As the results are consistent with and contained within those above, they are not reported separately.

situations. In fact, the occurrence of "Half-hours viewed before 6.30 p.m." within this set is an example of this imperfect relationship in that it also appears amongst the Set 5 measures. There the viewing of a large number of half-hours before 6.30 p.m. may be combined with a large or small number of total viewing hours but with a much higher component of cartoon viewing. These would represent two commonly-occurring modes of viewing amongst individuals in the sample. A scale score for each individual could be calculated from this set of measures and the factor loadings (see Appendix 6).

Set 2: Simulated Viewing Scale

Total simulated programme viewing	* * * *
Simulated programme viewing before 6.30 p.m.	* * * *
Simulated programme viewing after 6.30 p.m.	* * * *
Simulated programme viewing - cartoons	*

In an attempt to assess the relationship between a child's actual viewing and the programme types for which a child expressed preference, a simulated viewing guide was administered to all children participating in the project. This guide consisted of a list of imaginary programmes with a short description of their content, set out in the manner of a newspaper programme guide. An example is given in Appendix 8. The programmes were arranged so as to be representative of the types of material shown on the one national and three commercial stations operating in Melbourne. It was expected that this approach would provide information about the characteristics of children whose actual viewing was greatly disparate from that indicated on the simulated programme guide.

It was thought likely that two main groupings of children would emerge: those with a similarity in amount and content of actual and simulated programme viewing, and those with some degree of disparity.

In fact, from the present findings it could be inferred only that there was a large group which indicated preference for a large amount of viewing when asked to project themselves into a situation unrestricted by the parental or sibling situation; and another group which indicated a small amount of overall viewing. No actual viewing or individual characteristic measures appeared with this set.

Set 3: Individual Characteristics Scale

High School Personality Quiz	Factor A	-	*
" " " " "	C	-	* *
" " " " "	D	+	* *
" " " " "	G	-	*
" " " " "	H	-	* *
" " " " "	O	+	*
" " " " "	Q3	-	*
" " " " "	Q4	+	*
Sarason Anxiety Scale (7) Total Score		+	*

The + and - signs refer to the direction of the scale. High scores on the measure marked + go with low scores on the measures marked -, and vice versa.

The measures comprising Set 3 are all from the assessments of individual characteristics. As an integral part of this study it was assumed that there would be complex interrelationships between the measures for personality factors, anxiety scale score, intelligence and parental occupation, and the actual and simulated programme viewing of the individual. Had this been the case, the analysis would have

been expected to show grouped combinations of individual characteristics with viewing measures within the various sets. In fact the analysis indicated the opposite result. Some of the measures of individual characteristics appeared in Set 3; with the exception of the measure of intelligence (appearing in Set 4) they did not contribute to sets containing actual viewing measures. It must be inferred that no clearly indicated pattern emerges to link the measures of viewing with individual characteristics of the children in the sample.

The results, particularly in the application of Cattell's High School Personality Quiz, were disappointingly negative. Was it that the "Personality Factors" assessed by the HSPQ were not relevant to the individual choice of ideal programme type or actual programmes viewed, or that the results were due to difficulties inherent in the practical application of this test? The form of the test as administered was constructed, validated, and normed on samples of American High School students. Underlying its use was the assumption that subjects would have well-developed reading skills for their age. Three schools in the sample had large enrolments from New Australian families. This, coupled with poorly-developed skills in some of the Australian children, could have invalidated the results. Also, children in the low attainment group watch a great deal of television. These factors may have acted in such a manner as to confound underlying relationships. The anxiety score had a loading on this factor that bore relation to Cattell's second order anxiety characteristic. Intercorrelation data for these measures are set out in Appendix 7.

The data obtained from the application of the Sarason Anxiety Scale (7) proved inconclusive in relationship to hypotheses linking this measure with intellectual ability and viewing habits.

From the pilot study there were found to be sub-group differences of anxiety level between the groups of low intensity viewers. The multivariate analysis of the main study data provides no further suggestion as to the nature of any causal links with this assessment of anxiety level to the other measures. Other workers in this field have suggested that combining the total scores on the Test Anxiety Scale and the General Anxiety Scale, to obtain the score made available by the Education Department for this study, may have had a deleterious effect on its application. It has also been put forward that the most advantageous use of the Sarason Anxiety Scales in an investigation of this type occurs when each of the seventy-five item responses is treated individually, rather than as contributing to scores for the two sub-scales. The data could not be obtained in this form and it seems that further detailed research in this area is required.

Set 4: Information Scale

Channel 2 viewing	* * * *
Documentaries viewed	* * *
Otis I.Q.	*

That a high incidence of Channel 2 (National) viewing should be related to the viewing of documentary programmes is hardly surprising, especially in view of the small amount of documentary material televised at that time by the commercial stations. The child's I.Q., as measured by the Otis Intermediate Intelligence Test, contributes to this set. This implies a tendency for those who watch more Channel 2 programmes to be from the higher intelligence groups. The fact that the I.Q. contribution is not particularly strong indicates that this must be considered as a tendency rather than as a direct relationship. It might have been expected that the parent's occupational category could have been related to this set, but this measure is affected by the difficulty of coding occupations on an ordered scale (see Appendix 1 for coding used). It is not clear whether the lack of relationship represents the real situation or whether the scaling of occupations has clouded the result.

Set 5: Early Evening Viewing Scale

Channel 0 viewing	* * *
Viewing prior to 6.30 p.m.	* *
Cartoon viewing	* *
Total hours of viewing	*

The children with high scale scores on this set were those who watched a large number of programmes on Channel 0, a large number of programmes before 6.30 p.m. and a comparatively large number of cartoon programmes. For many of them the total amount of viewing was also high. The interrelationship of cartoon and Channel 0 viewing in this set is partly explained by the number of cartoons programmed by that station in the late afternoon and early evening, at the time of the study.

At this point, it is worthwhile to consider the relationship between these results and those obtained from the pilot study. In many ways the statistical treatment used in each study approached the problem from different directions. In the pilot study, groups were formed of children whose viewing pattern had a degree of similarity, and from these groupings were determined the independent dimensions (on sets of measures) which provided a minimum loss of "information" description of this viewing. In the main study, sets of measures were formed which established the independent dimensions from which the child's viewing could be described in terms of set of factor scores. #

Statistically these procedures are widely divergent. At one extreme are the similarity grouping procedures, applicable only to small samples and requiring few assumptions as to the distribution of scores on the various measures; at the other extreme is the factor analytic procedure applied to the large sample for the main study. Yet when these two procedures are considered from the common ground of dimension on the relevant measures, the results are found to be essentially the same. The actual comparison is shown in Table 1.

Table 1 - Dimensions of Viewing

	Pilot Study	Main Study
1	Amount of Viewing	Totality of Viewing Scale
2	Selectivity of Viewing	Information Scale
3	Cartoon Programmes	Early Evening Viewing Scale
4	Teenage Programmes	-

The naming of these dimensions was to some extent an arbitrary procedure. In both studies the measures related to a dimension were provided by the analysis and names were allocated on the basis of this information. The selectivity dimension of the pilot study was related to the number of documentary and news programmes viewed, the number of breaks within an evening's viewing, and the ratio of channel changing to viewing time. The counterpart of this in the main study is the viewing of information programmes and the incidence of Channel 2 viewing. The early evening viewing scale of the main study has a strong loading of cartoon viewing.

If each child's set scores were plotted in the three-dimensional space which encompassed the descriptive aspects of viewing, groups of "swarms" of points similar to that found in the pilot study should be obtained (see Appendix 3).

The absence of a parallel in the main study to the teenage programme dimension of the pilot study has already been explained by the change in station programming policy between the time of data collection for the two studies. The change moved teenage programmes to the weekend, and data for the main study was based only on weekday viewing.

The broad pattern of television viewing by children in the 12-14 year age group, as described in this study, is likely to be reasonably stable as it was derived independently from the two differing parts of the project. Although it may appear that not much has been achieved, it is significant that the results show no support for the many hypotheses put forward suggesting that young adolescents seek and are able to obtain satisfaction from much viewing of television violence, crime and horror. Had the sample contained a large number of children whose viewing was in accord with these hypotheses, the fact would have been reflected in the results of the pilot or main studies. Rather, the results indicated that quantity of television viewing per se is the relevant issue with this age group.

The lack of positive findings, or even an indication of tentative hypotheses involving the measures of personality, was a major disappointment. The timing of the study and the selection of the sample was determined by the availability of test scores on what appeared to be a useful set of measures. Without this information, provided by the Education Department, it would have been impracticable to embark on the project. But a great deal of complex analysis has led to a dilemma. Either the measures used can be accepted as valid indicators of the personality characteristics they purport to assess - in which case the finding is that these particular personality characteristics bear no clear relationship to the viewing pattern that emerged for a given individual; or the test measures have not been shown to meet their construction requirements when used with Australian children, leaving the question of relationship of these personality characteristics and viewing patterns open to reappraisal.

The processes of mass communication are complex, and involve the interaction of diverse forces at many levels for a given individual. In television, for example, an individual's viewing may be considered as an outcome of dynamic interaction processes involving all members of the viewing group. In this study no information about family interaction with the viewing process was available because only a limited amount of data could be collected. If real relationships between viewing and personality characteristics were to be detected, they would have to be sufficiently strong to be measurable despite the clouding effects of the intervening family variables. Large-scale projects may tend to over-simplify the viewing situation in order to obtain results at a particular theoretical level. It is apparent that much detail may be uncovered by projects which study intensively media usage by a small number of family groups. The difficulty confronting such studies is the existence of a multi-disciplinary body of theory, ranging through such fields as sociology, psychology and physiology. To assemble a research team of experts from each of the component disciplines, each of whom is well informed in mass communication theory and research would be a formidable task in this country until such time as mass communication is freely studied in its own right at tertiary level. With Mass Communication courses now being offered at several Australian universities, a growing awareness of the importance of the mass media in forming and stabilizing opinions and attitudes may lead to a co-operative approach to mass communication research in Australia; for clearly major research projects in this area will require utilization of expert resources from a number of relevant disciplines.

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(5) "Handbook for the High School Personality Questionnaire", R. B. and M. D. L. Cattell. (Institute for Personality and Ability Testing, Illinois, 1969).

(6) "Factor Analysis" H. H. Harman in "Handbook of Measurement and Assessment in Behavioural Sciences", edited by D. K. Whitla-Addison Wesley 1968.

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APPENDIX 1

METHODOLOGY

A. Measures of Television Viewing

In the method of aided recall used, complete programme listings for the previous evening were given to students, who were instructed to designate their actual viewing by ringing programmes viewed in entirety, and including an estimate of time for partially-viewed programmes. (All programme durations appeared with the programme title.) Students were then asked to recall their viewing for the two previous nights, and were instructed to indicate their actual viewing but not to include regularly-viewed programmes which they did not watch that week.

Schramm (2) devotes an appendix to the estimation of viewing time, comparing methods of aided and unaided recall with diary keeping. The method of aided recall was considered the most suitable with American children in this age group. By extending the recall over three evenings an uncertainty may have been introduced into the viewing estimate, but examination of the figures for finishing times indicates little in the way of systematic bias over the three evenings.

The three-day records for each student were used to provide the measures for the following variables:

1. The half-hours of viewing before 6.30 p.m.
2. The half-hours of viewing after 6.30 p.m.
3. The total hours of viewing.
4. The number of half-hours of viewing for each of the four stations.
5. The number of station changes.
6. The number of half-hour breaks from viewing between the time of beginning the first programme and the end of viewing the last programme.
7. The time of ceasing to view each evening.
8. The total number of half-hours of news programmes viewed.
9. The total half-hours of cartoon programmes.
10. The total half-hours of teenage programmes.
11. The total half-hours of documentary programmes.

For measures 1 to 6 the figures quoted in the tables represent the average over the three consecutive evenings.

The following measures were extracted for the pilot study only.

12. The total half-hours of domestic comedy.
13. The total half-hours of adventure drama.
14. The total half-hours of crime drama.
15. The total half-hours of westerns.
16. The total half-hours of drama programmes not included above.

B. Individual Data

The data quoted on intelligence, personality and anxiety were provided by the Curriculum and the Research Branch of the Education Department of Victoria. The tests used and measures provided are listed for information.

(i) Otis Intermediate Intelligence Test - a general purpose pencil-and-paper intelligence test widely used at late primary school and early secondary levels throughout Australia. This test was produced by the Australian Council for Educational Research. It is recognised as being a reasonable predictor of secondary school success, provided the child has had adequate opportunity for development of reading skills. The results were categorised as follows:

0	Not in scale
1	60-70
2	71-80
3	81-90
4	91-100
5	101-110
6	111-120
7	121-130
8	131-140

(ii) The High School Personality Questionnaire (HSPQ) - this is a pencil-and-paper test which purports to measure a set of fourteen factorially independent dimensions of personality. It was developed in America by the Institute for Personality and Ability Testing, for use with children of ages 12 through 18. The American norms were used in establishing the factor scores. Scale scores on eleven factors were made available by the Education Department of Victoria. A description of these bipolar factors using Cattell's technical and popular terminologies is given below.

Terminology	Low Score Description (1-3)		High Score Description (8-10)
Professional Popular	Sizothymia. Reserved, detached, critical, aloof, stiff.	A	Affectothymia. Warmhearted, outgoing, easygoing, participating.
Professional Popular	Lower ego strength. Affected by feelings, emotionally less stable, easily upset, changeable.	C	Higher ego strength. Emotionally stable, mature, faces reality, calm.
Professional Popular	Phlegmatic temperament. Undemonstrative, deliberate, inactive, stodgy.	D	Excitability. Excitable, impatient, demanding, overactive, unrestrained.
Professional Popular	Submissiveness. Obedient, mild, easily led, docile, accommodating.	E	Dominance. Assertive, aggressive, competitive, stubborn.
Professional Popular	Desurgency. Sober, taciturn, serious.	F	Surgency. Enthusiastic, heedless, happy-go-lucky.
Professional Popular	Weaker superego strength. Disregards rules, expedient.	G	Stronger superego strength. Conscientious, persistent, moralistic, staid.
Professional Popular	Threctia. Shy, timid, threat-sensitive.	H	Parmia. Adventurous, "thick-skinned", socially bold.
Professional Popular	Zeppia. Zestful, liking group action.	J	Coasthenia. Circumspect individualism, reflective, internally restrained.

Terminology	Low Score Description (1-3)		High Score Description (8-10)
Professional Popular	Untroubled adequacy. Self-assured, placid, secure, complacent, serene.	O	Guilt proneness. Apprehensive, self-reproaching, insecure, worrying, troubled.
Professional Popular	Low self-sentiment integration. Uncontrolled, lax, follows own urges, careless of social rules.	Q3	High strength of self-sentiment. Controlled, exacting will power, socially precise, compulsive, following self-image.
Professional Popular	Low ergic tension. Relaxed, tranquil, torpid, unfrustrated, composed.	Q4	High ergic tension. Tense, driven, overwrought, fretful.

(iii) The Sarason Anxiety Scales - an Australian adaptation of the Sarason Anxiety Scales (developed by the Psychology Department, University of Melbourne) was used by the Education Department. This consisted of two scales:

(a) General Anxiety Scale

(b) Test Anxiety Scale

These scales represented an attempt to detect abnormal levels of anxiety in children.

The measure available from this test was the combined score on the Test and General anxiety scales. It was felt that a more meaningful analysis of the anxiety responses could have been made if the individual item responses for both scales had been available for separate analysis.

(iv) Parent Occupational Classification - the categorization of the occupation of the head of household was provided by the Education Department. Occupations were coded according to the following scheme:

1. Higher Professional
2. Administrators
3. Sub Professional
4. Small Working Proprietors
5. Proprietors and Managers
6. Clerical and Sales
7. Manual workers - skilled and semi-skilled.
8. Labourers
9. Unskilled manual workers
0. Unclassified

APPENDIX 2

VIEWING DATA

Viewing data from study by E. B. Thomas and W. R. Lang in "The televiewing habits of secondary schoolchildren in Greater Geelong in August, 1965".

TABLE 2. Form 1 (Boys) Mean Daily Totals of Hours of Televiewing

("Typical" Viewing - day students)

Monday	2.9 hours
Tuesday	2.9 hours
Wednesday	2.9 hours
Thursday	2.9 hours
Friday	3.8 hours
Saturday	4.3 hours
Sunday	4.2 hours
Week	23.9 hours

TABLE 3. Weekly Total Hours

	Mean Total Hours viewing per week Quoted as "typical"	
	Day Students	Boarders
All Boys and Girls	19.8 hours	4.1 hours
All Boys	20.5 "	4.8 "
All Girls	19.1 "	2.2 "

By Forms, the mean weekly total hours were:

	Form 1	Form 2	Form 3	Form 4	Form 5	Form 6
Day Students (Boys)	23.9	22.8	20.8	17.4	12.5	10.9
Day Students (Girls)	22.2	21.5	18.7	16.7	11.2	6.4
Boarders (Boys)	4.1	5.0	5.0	7.6	3.5	3.3
Boarders (Girls)	2.8	1.6	2.1	2.6	2.1	1.3

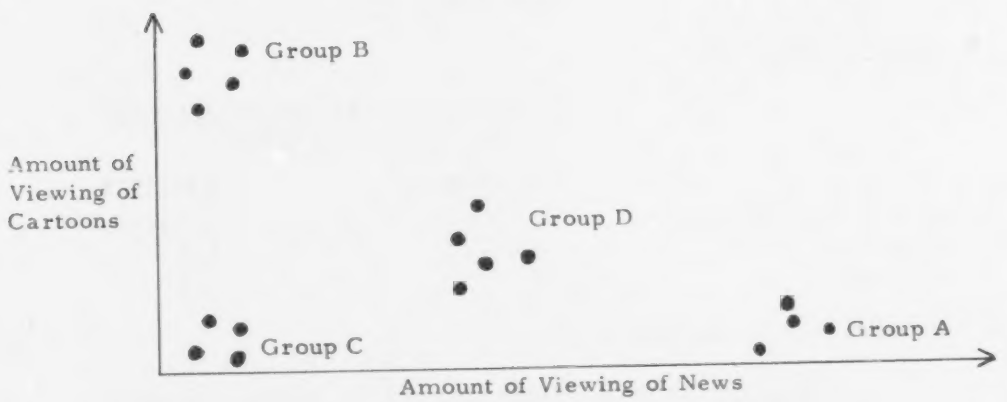
APPENDIX 3

THE CONCEPT OF SIMILARITY GROUPS

Most research in the field of television has considered measures about an individual at a descriptive level, one measure at a time, and has not been involved with an overall pattern for the individual. For the situation depicted in Figure 10 the time spent viewing cartoon programmes has been plotted against the time spent viewing news programmes for a hypothetical population. The individuals in Group A exhibit a large amount of viewing time for news and low viewing time for cartoons. Those in Group B are in the converse situation. Individuals in Group D have moderate viewing of both cartoons and news, and those in Group C record little viewing of either.

Figure 10

Similarity Groupings in Two Dimensions



The viewing by individuals in each of these groups is more like that of members of their own group than that of members of any other. Viewing of news and cartoons for each individual in the group may be described by reference to the median or characteristic measure for the group as a whole. This illustrates the feasibility of allocating an individual to a two-dimensional similarity group, and that, under appropriate conditions, facilitates description of the attributes of the individual. Furthermore, if the measure of amount of time spent viewing cartoons is considered in relation to intelligence, groups B and C would appear about the one point on this one-dimensional scale. It may be that Group B contained individuals of higher intelligence than group C, but this difference would be masked on a unidimensional scale. It would only be found by considering all possible combinations of measures, one at a time, with the measure of intelligence - a time-consuming task when the number of variables is large.

Now consider the extension of this process, adding another dimension, plotting, say, the time of viewing teenage programmes vertically from the page. The situation becomes three-dimensional and again the possibility of groupings can be verified. In this study the similarity groupings of individuals based on fourteen measures of televiewing were examined, requiring initially a fourteen-dimensional hyperspace. The problem is further complicated by the fact that many of these measures are themselves highly interrelated (e.g. total viewing hours will be related to the hours of viewing for each channel). In this situation the hyperspace collapses to a minimum number of independent dimensions, each of which can be specified in terms of the original measures.

APPENDIX 4

MEAN TELEVISION VIEWING

TABLE 4. Mean Television Viewing for Boys at High Schools

Measure	School 1	2	3	4	5	6	Summary for All High Schools
Half-hours viewed before 6.30	2.36	2.71	2.46	2.20	2.95	2.96	2.79
Half-hours viewed after 6.30	4.94	4.86	4.61	5.66	5.32	4.72	5.02
Total hours viewed	4.00	3.97	3.80	4.64	4.36	4.11	4.16
Half-hours cartoons	1.13	1.46	0.83	2.07	1.73	1.44	1.45
Half-hours news	1.26	0.91	1.22	1.45	1.91	1.02	1.25
Half-hours documentary	0.55	0.23	0.39	0.14	0.91	0.18	0.34
Half-hours ABV	1.45	0.80	1.35	0.68	1.45	0.67	1.00
Half-hours HSV	2.06	1.66	1.42	3.16	2.18	1.91	2.12
Half-hours GTV	2.51	3.77	2.63	3.54	3.09	3.73	3.24
Half-hours ATV	1.49	1.20	1.47	1.50	1.65	1.23	1.41

TABLE 5. Mean Television Viewing for Girls at High Schools

Measure	School 1	2	3	4	5	6	Summary for All High Schools
Half-hours viewed before 6.30	2.72	2.27	2.53	2.05	2.76	2.55	2.43
Half-hours viewed after 6.30	4.33	4.24	4.76	4.26	4.12	4.51	4.37
Total hours viewed	3.36	3.41	3.92	3.39	3.60	3.73	3.58
Half-hours cartoons	0.91	1.47	0.92	1.55	2.92	1.58	1.46
Half-hours news	0.96	0.70	1.03	1.02	0.52	0.80	0.86
Half-hours documentary	0.48	0.06	0.29	0.06	0.08	0.27	0.20
Half-hours ABV	1.24	0.34	0.92	0.52	0.48	1.04	0.75
Half-hours HSV	1.52	1.54	1.50	1.92	1.96	1.45	1.63
Half-hours GTV	2.76	3.19	3.24	2.66	2.76	3.11	2.96
Half-hours ATV	1.61	1.44	1.61	1.23	1.68	1.25	1.43

TABLE 6. Mean Television Viewing for Boys at Technical Schools

Measure	School 1	2	3	4	5	6	7	8	Summary for all Technical Schools
Half-hours viewed before 6.30	2.62	2.24	2.35	1.93*	3.10	2.92	3.44	2.89	2.58
Half-hours viewed after 6.30	4.09	4.08	4.55	3.99	5.29	4.25	4.54	4.54	4.40
Total hours viewed	3.64	3.44	3.69	3.21	4.45	3.85	4.29	4.03	3.76
Half-hours cartoons	1.94	1.63	1.12	0.89	1.65	1.11	0.40	2.00	1.28
Half-hours news	1.06	1.22	0.61	1.21	1.61	0.79	1.21	1.32	1.05
Half-hours documentary	0.09	0.29	0.12	0.47	0.33	0.19	0.13	0.14	0.22
Half-hours ABV	0.47	0.83	0.53	0.83	0.90	0.37	0.77	0.46	0.64
Half-hours HSV	1.89	1.75	1.79	1.53	2.06	2.04	2.50	2.19	1.91
Half-hours GTV	3.23	2.71	2.76	2.11	3.67	3.41	3.96	3.70	3.05
Half-hours ATV	1.11	1.17	1.13	1.33	1.65	1.15	0.83	1.03	1.18

* Many of the boys at this school are school bus travellers and viewing in this period was reduced by travelling time.

APPENDIX 5

DISTRIBUTION OF VIEWING

The following tables show the percentage of children viewing for various amounts of time before and after 6.30 p.m., and for the whole day. The figures are the average of viewing on three consecutive weekdays.

TABLE 7. Viewing Before 6.30 p.m.

Number of half-hours viewing	Boys %	Girls %	Total %
0	15.93	16.19	16.00
1	15.37	16.19	15.60
2	16.11	16.67	16.27
3	16.85	21.90	18.26
4	16.30	20.48	17.47
5	19.44	8.57	16.40
	100.00	100.00	100.00

Test for difference between boys and girls, viewing before 6.30 p.m.:

Chi-square = 14.63, 5df .05 > p > .01

TABLE 8. Viewing After 6.30 p.m.

Number of half-hours viewed per night	Boys %	Girls %	Total %
0	4.44	4.76	4.53
1	5.00	3.81	4.67
2	10.19	8.57	9.73
3	12.96	18.57	14.53
4	14.81	18.57	15.88
5	15.75	17.14	16.14
6	13.33	10.48	12.53
7	8.70	12.38	9.73
8	7.41	4.29	6.53
9+	7.41	1.43	5.73
	100.00	100.00	100.00

Test for difference between boys and girls, viewing after 6.30 p.m.:

Chi-square = 20.47, 9df .05 > p > .01

TABLE 9. Viewing for Whole Day

Number of hours viewing	Boys %	Girls %	Total %
0	3.52	5.24	4.00
1	5.74	4.29	5.33
2	13.52	16.19	14.27
3	16.48	21.43	17.87
4	23.52	24.28	23.72
5	16.11	16.67	16.27
6	11.11	9.52	10.67
7	8.52	1.90	6.67
8	1.48	0.48	1.20
	100.00	100.00	100.00

Test for difference between boys and girls, total viewing hours:

Chi-square = 16.16, 8df .05>p>.01

TABLE 10. Apportioning of Viewing Among Stations

	ABV %	HSV %	GTV %	ATV %
Proportion of children viewing at least one half-hour on station	43.47	80.80	87.60	64.27
Proportion not viewing station	56.53	19.20	12.40	35.73

TABLE 11. Mean and Standard Deviation of Distribution of Viewing Times for each Station

	ABV	HSV	GTV	ATV
Mean half-hours viewed	0.69	1.96	3.19	1.32
Standard deviation	1.00	1.64	2.37	1.41

(There was no significant sex differences in these viewing figures.)

TABLE 12. Viewing of News, Cartoons, and Documentary Programmes

	News %	Cartoon %	Documentary %
Not viewed	48.53	49.59	85.60
Viewed less than half-hour	48.00	35.47	11.70
Viewed half to one hour	3.47	11.47	2.70
Viewed one to $1\frac{1}{2}$ hours	-	3.47	-
	100.00	100.00	100.00

TABLE 13. Percentage of Children Viewing at Stated Times

Time	%
7.30 p.m.	83.64
8.00 p.m.	82.04
8.30 p.m.	67.37
9.00 p.m.	55.68
9.30 p.m.	36.92
10.00 p.m.	30.61
10.30 p.m.	17.28
11.00 p.m.	6.35
11.30 p.m.	3.07

TABLE 14. Apportioning of Viewing Between Stations for Viewers in the 10-17 years age group, November 1967
(Source: Anderson Analysis, McNair Survey)

ABV %	HSV %	GTV %	ATV %
9.8	23.9	42.5	23.8

APPENDIX 6

FACTOR LOADINGS ON FIVE FACTOR VARIMAX SOLUTION*

	1	2	3	4	5
1. Hours before 6.30	- .58				- .57
2. Hours after 6.30	- .95				
3. Total Hours	- .90				- .35
4. Cartoons	- .26				- .45
5. News	- .38				
6. Documentaries				.60	
7. SIMULATED PROGRAMMES Before 6.30		.78			- .26
8. After 6.30		.87			
9. Total Hours		.98			
10. Cartoons		.25			
11. News					
12. Documentaries				.25	
13. ACTUAL PROGRAMMES ABV				.76	
14. HSV	- .62				
15. GTV	- .68				
16. ATV	- .25				- .62
17. FINISHING TIME - TUESDAY	- .71				
18. WEDNESDAY	- .69				
19. THURSDAY	- .69				
20. OTIS I.Q.				.29	
21. A HSPQ (#)			- .32		
22. C			- .58		
23. D			.58		
24. E					
25. F					
26. G			- .36		
27. H			- .52		
28. I					
29. O			.47		
30. Q3			- .31		
31. Q4			.47		
32. OCCUPATIONAL GROUPS					
33. ANXIETY			.34		

* Factor loadings less than 0.25 omitted.

\# See Appendix 1, B(ii).

APPENDIX 7

INTER-CORRELATION MATRIX FOR INDIVIDUAL MEASURES*

	IQ	A	C	D	E	F	G	H	I	O	Q3	Q4	OG	ANX
IQ OTIS	1.00													
HSPQ A		1.00												
C	-.13	.21	1.00											
D	.10	.18	.36	1.00										
E					1.00									
F		.12			.26	1.00								
G	.11	.15	.20	-.22	-.12		1.00							
H		.22	.35	-.27		.15	.16	1.00						
I					-.13				1.00					
O	.12		.33	.30			.18	-.20		1.00				
Q3			.16	-.18	-.13	-.14	.28	.11		-.13	1.00			
Q4		-.11	.25	.33			-.14	-.25	.12	.24	-.17	1.00		
OCCUP-ATIONAL GROUPS	-.23						-.10						1.00	
ANXIETY	-.13		-.16	.21			-.11	-.26		.17		.19		1.00

* Correlations less than 0.10 omitted.

APPENDIX 8

FORM OF VIEWING RECORD FOR MONDAY 4/12/67

NAME. . . . . .
FORM. . . . . .
SCHOOL. . . . . .

TIME	CHANNEL 2 (ABV)	CHANNEL 7 (HSV)	CHANNEL 9 (GTV)	CHANNEL 0 (ATV)
4.00 p.m.	Adventure Island	Robin Hood	The Samurai	Mr. Piper
4.30	Animal Parade	The Famous Adventures of Mr. Magoo	The Three Mesquiteers	Rocky and Bullwinkle Show
	4.40 Flicker Special			
5.00		The Mickey Mouse Club and The Happy Club	"	The Flintstones
	5.10 Why Is It So?			
	5.25 Lassie			
5.30		"	Dennis the Menace	Broken Arrow
	5.50 Adventures of the Sea Hawk			
6.00		Jungle Jim	Car 54, Where Are You?	The Patty Duke Show
	6.15 My Favourite Martian			
6.30		News, Sport, Weather	News, Newsreel, Weather	Global News
	6.40 Bellbird			
7.00	News, Newsreel and Weather	B.P. Pick-A-Box	It's About Time	The Rat Patrol
7.30	This Day Tonight	The Saint	Daktari	The Great Adventure
8.00	The Avengers	"	"	"

SIMULATED PROGRAMME VIEWING GUIDE

	Channel 3	Channel 6	Channel 8	Channel 11
4.00	Adventures Down Under - Australian series about a gang of children. "It's a Wombat" - the children find a wombat and try to find its young.	African Outpost - Story of Sam Delaney and his family who run a trading post in the heart of Africa. "The Thieves". A gang of jewel thieves hold up the trading post.	Brave Baron - Animated Cartoon Series - The Baron falls in love with a princess from another planet.	Out of the West - Series of films depicting life in the Wild West. "Gold" - A stage comes into town with the gold on board but the driver missing.
4.30	Paul and Rastus. Story of a friendship between boy and retriever dog. "School" - Paul's parents want to send him to boarding school.	Tomahawk - exploration of the N.W. of America and the friendship between a Frenchman and Indian warrior. "The Bear Hunt".	The Denis Blaney Show - U.S. series - Sophisticated newspaper editor brings justice to the west, without violence.	(Continued)
5.00	Ahoy There! Tales of the Vikings and their long boats. "Whales" - the Vikings head north into the arctic zone and encounter a school of whales.	Western Trail. Story of a stagecoach line in the wild west. "The Great Aunt" - Paul receives word that his great aunt in Boston wants him to return and live with her.	Please take Control. Cartoon series about a small boy and a robot.	Beany and Cecil. Cartoons. Boy with propellor hat and his friend Cecil the seasick serpent.
5.30	Let's Have a Laugh - a comedy series consisting of old time movies, cartoons and old time kings of humour.	Richard Mason and His Men. Adventure series set in the reign of Charles I. "The Bride" - Richard rescues Amelia, daughter of the king, from an arranged marriage.	Tennessee Tuxedo. Cartoons introduced by a sarcastic penguin and his friends.	Hi-Time. Teenage variety hosted by Mark Storm with go-go competition and special Beatle film clip.
6.00	Marmaduke. Adventures of a U.S. family and their disappearing cat who gets into hilarious situations.	Ernie Egan. Series of nutty taxi-driver who lands himself into hilarious situations.	Tick and Tiger. U.S. series. Story of a small boy and his pet eagle. Tick decides to go for a hike and becomes lost.	Anderson, Anderson and Anderson. Crazy adventures of 3 brothers. "Sammy" - the trio find they have become guardians to a monstrous six year old boy.

SIMULATED PROGRAMME VIEWING GUIDE (CONT'D)

	Channel 3	Channel 6	Channel 8	Channel 11
6.30	Beulah. Comedy series. Maid of all work runs her employers family - with Ethel Waters.	News, Weather and Sport. Read by Don Graham.	News, Sport and Weather. News read by Colin Russell. Football highlights - Sam Quayle.	The 4 M's. U.S. series about four teenagers, Mike, Mandy, Mary and Mark. "The Flat" - after a quarrel with their parents Mandy and Mary decide to move into a flat.
7.00	News, Newsreel, Weather; read by Arthur Eastwood.	Artichoke. U.S. comedy series story about a Boston family and their goat who leads them into fun, games and adventure.	"Date with Angels". U.S. comedy series. Betty Marino and Paul Gedge as young married couple and their madcap adventures.	View the Clue: Local show with Dean Fenton and Johnny Pugh hosting a zany new quiz show; with prizes for viewers.

Postscript

Experience has shown that many enthusiastic people with little research training or experience wish to undertake projects involving various forms of mass communication; for this reason it may be worthwhile to comment on some of the points that have emerged from this project. First, the relative simplicity of obtaining responses from the public as to their media likes, dislikes, and usage does not imply that a research project can be completed with some degree of success. Survey-type research can add to the understanding of mass communication processes, provided that the limitations and possibilities of the method are recognized by the researcher, and that he is experienced and knowledgeable in the general area of social research. Although the development of computers has dramatically reduced the time taken to produce a multitude of cross-tabulations arising from a project, it has not reduced the need for care and attention to detail which the researcher must give to the planning of the data collection procedures. A great quantity of analysis is possible from material gathered in a survey, and thus any limitations in the original data become magnified as the project proceeds. The availability of computers and newer statistical techniques may have reduced the problems of analysis but, in so doing, it has increased the problems of interpreting the more complex results. Ability to interpret the data correctly comes only with painstaking thoroughness and experience.

In this field of research there is a very real difficulty in obtaining suitable measuring instruments in the areas of personality, peer group relationships and family structuring. Tests used for such work in other countries may be obtainable, but there are dangers in using test materials that have not been cross-validated on subjects whose background is basically similar to those of the project group. With an overseas test, no matter how impressive the data for its standardization may be, its usefulness in a project depends on the demonstration of its reliability and validity under local conditions. There are also problems associated with the generality of the measure used. The use of, say, an omnibus type of intelligence measure would be out of place if the aspect of intelligence theoretically related to the other measures being used were, for example, a particular level of concept attainment. It may be difficult to obtain and validate a test specific to the task at hand, but its use means that real relationships in the data are less likely to be obscured by spurious effects. The catalogues of test materials currently available in Australia offer surprisingly few attitude scales, personality inventories, and assessments of social participation which meet these requirements.

There seems to be a real need for facilities to co-ordinate, develop and validate test measures appropriate for use in Australian social research investigations. Much time and effort would be saved if measures developed either overseas or locally could be subjected to sufficient testing under Australian conditions to enable researchers to select their instruments with confidence that they would really measure what they purport to measure.